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ABSTRACT

This paper provides a brief comparative summary of the results of U.S. and European studies on the use of CD-ROM and other optical products in all types of libraries and information centers. In 1987 and 1988, questionnaires were distributed to academic, public, and special libraries in the United States and to libraries in 18 European countries: Austria, Belgium, Denmark, Finland, France, Federal Republic of Germany, Great Britain, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland. It was found that CD-ROMs were being used mainly in larger academic libraries, with larger staff and collections, although the number of public and special library users was on the rise. In the United States, 58.6% of academic, 56.5% of public, and 29.9% of special libraries said they owned optical disk products; in Europe, 9.5% of libraries surveyed claimed ownership of optical disk products. In both cases, CD-ROMs accounted for 99.5% of optical products used, and they were being used mainly by library staff rather than by the end users. In both 1987 and 1988, the studies found that the high-use CD-ROM titles in the U.S. academic libraries were quite consistent; they remained: ERIC, Infortrac, Psyclit, Books in Print, and ABI/Inform. Results of the surveys also indicated that there was a lack of knowledge about and awareness of the availability, applications, and use of CD-ROMs and optical products in general. (8 references) (SD)

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HOW OPTICAL PRODUCTS HAVE BEEN USED IN THE U.S. AND WESTERN EUROPE

by

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National Online Meeting
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HOW OPTICAL PRODUCTS HAVE BEEN USED IN THE US AND WESTERN EUROPE

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Keywords: *Optical products, CD-ROMs, Optical Technology, Use study, USA, Europe*

Abstract: Several comprehensive use studies of optical products in American academic, public and special libraries were conducted by Chen in 1987 and 1988.* In 1989 a similar study was carried out in all types of Western European libraries and information centers.** This paper intends to highlight the interesting results of all these studies, with specific emphasis on how American uses are compared with those in Western Europe. It is expected that the results will be of great interest to the online community. The studies reveal a prominent growth pattern in the use of optical products both in the US and Western Europe. Also, the use of these products in the US was much more widespread than that in Western Europe.

1. BACKGROUND

Since the introduction of the first library-related CD-ROM products in late 1984, CD-ROM has exploded onto the general library marketplace with database and information producers and vendors rushing to introduce their new CD products and services in all areas of library and information related operations and services. A latest Directory lists 816 CD-ROM commercial products currently available (Ref. 1), and the number is growing fast. InfoTech's *Optical Publishing Industry Assessment 2-CD ROM 1986-1990* predicted that the number of CD-ROM titles in print which doubled from 628 in 1988 to 1,442 in 1989, will be 2,956 titles in print in 1990. Of these about one-half of the titles in print are for commercial use, and the other half for in-house use (Ref. 2). Thus, it is fair to say the CD technology has created an unprecedented opportunity for information producers and librarians alike to distribute electronic information to end-users via microcomputers (Ref. 3).

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**The European study was sponsored by the Fédération Internationale d'Information et de Documentation (FID), and funded by the European Economic Commission (EEC), The Nordic Council for Scientific Information and Research Libraries (NORDINFO) and FID.

Yet, how are these products and services used? Is CD-ROM a panacea? Answers to many questions like these are still unknown and deserve more in-depth exploration. Thus, in the summer of 1987, a survey on the use of CD-ROM and other optical information products in the American university and college libraries was originated by Ching-chih Chen (Ref. 3), and follow-up studies of three major types of libraries (i.e. academic, public and special) in the USA were further conducted in the third quarter of 1988. Detailed results of these studies are available in *Optical Discs in Libraries: Uses and Trends* (Ref. 4).

Furthermore, a survey in Western Europe, based on the same questionnaire for the purpose of comparison, was conducted by Chen and Raitt in early 1989. All types of libraries and documentation and information centers in eighteen European countries were surveyed. It was completed in October 1989 (Ref. 5). The Final Report, entitled *Survey on the Use of Optical Products in Libraries and Information Centers in Europe*, was submitted in January 1990 (Ref. 6) and the summary is included in the March 1990 issue of *The Electronic Library* (Ref. 7).

A more comprehensive comparative report on the results of the American and European studies is available in the March 1990 issue of *Microcomputers for Information Management* (Ref. 8) in addition to Ref. 4. Thus, only a brief summary will be given here.

2. RESULTS OF AMERICAN AND EUROPEAN STUDIES

In 1987, 720 questionnaires were distributed to US academic libraries, and 295 (41%) were returned. Of these 86 (29.2%) said they were using optical products in their libraries and information centers. Almost all of these positive replies indicated that they were, in fact, using CD-ROMs rather than other types of optical discs. A year later, the 209 academic libraries which responded in 1987 with negative ownership of optical products were surveyed again (referred to as the "1987 No Sample"), and in addition, additional 720 questionnaires were distributed to academic libraries, 662 to public libraries, and 638 to special libraries. Of these, the 1987 No sample of the academic libraries received a 44% return, and other samples received returns ranging from 20% for the public libraries to 29.2% for the academic libraries. In one short year time, the optical product ownership in American libraries doubled, although proportionally there were higher percentages of uses in academic (58.6%) and public (56.5%) libraries than in special libraries (29.9%).

The European study was an enormous undertaking with a total 13,568 questionnaires sent to eighteen European countries - Austria, Belgium, Denmark, Finland, France, FRG, Great Britain, Greece, Iceland, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland. This large sample size was deemed necessary due to the small percentage (23.1%) of the returns (3,130 replies) which were received. Of these 3,130 libraries, only 297 (9.5%) responded they had owned optical products compared to 2833 (90.5%) who said they had not. When this is compared with the ownership statistics of the US studies described above, clearly, the percentage of European ownership is much smaller than those reported in the US studies. In all studies - US or European - almost all of the optical products used (99.5%) referred to CD-ROMs.

2.1. Ownership of Optical Products in Libraries

Because of the increasing popularity of CD-ROM technology and the fast growing of CD-ROM products, the studies showed that even in one short year, the percentage of use doubled from 29.2% of all academic libraries in 1987 to 58.6% in 1988. Furthermore 50% of those academic libraries which did not own any optical product in 1987 reported a year later that they had acquired an optical product. On the other hand, the use of optical products in European libraries was considerably much less (9.5% only) than those uses in the US libraries, ranging from 20% for "yes" in UK to 0% in both Greece and Luxembourg when each country's statistics were analyzed.

In 1987, 60.5% of the academic libraries with positive ownership took only one product, but only a year later, about 55% took from one to three products. Products, in the main, were purchased. Most were used by library staff as opposed to end users.

2.2. Ownership of Optical Products by Type of Library

There were great differences in use distribution by type of library as checked by the respondents - the percentages of use of optical products in both academic and public libraries in the US were almost three times as much as that of the special libraries. The distribution for special libraries was 18% for "yes" and 82% for "No", as compared to 57.4% for "Yes" and 42.6% for "No" for the academic libraries and 57% for "Yes" and 43% for "No" for the public libraries. This is partially due to the fact that there was a much higher percentage of American special libraries which were very small in size - mostly one person libraries with a very limited collection and library budget. Most of these smaller libraries simply could not afford to acquire CD-ROMs. In Europe, the use of optical products in public and special libraries were quite similar (ranging from 5.1% to 7.4% for "Yes" and from 92.6% to 94.9% for "No"), but less than half of the use in academic libraries (16% for "Yes").

2.3. Optical Products in Libraries

In both 1987 and 1988, it was found that the high-use CD-ROM titles in the US academic libraries were quite consistent. They remained to be ERIC, Infotrac, Psyclit, Books in Print and ABI/Inform. However, the rankings of high-use titles in American academic, public and special libraries do differ considerably, although most of them remained to be on the top ten rankings of all types of libraries. It was surprising to see the almost total non-use of ERIC in the US public libraries, which, on the other hand, was by far the most popular title in academic libraries, used in over 65% of the responding academic libraries in the US. The most popular optical product in American public libraries was Infotrac, which was also popular in other types of libraries as well. Aside from Infotrac, most other use of CD-ROMs in American public libraries seemed to concentrate on library bibliographic, acquisition and cataloguing tools, such as Books in Print Plus, BiblioFile, Lasercat and Le Pac.

When the composite 1988 US ranking is compared with the results of the European study, there were interesting deviations:

- The top American ranking title, INFOTRAC, did not make it even to the top fifteen position of the European study;

- MEDLINE was much more used in Europe than in the USA. It emerged to be the top ranking title in Europe, yet its use in the US was rather modest;

- ERIC, the top ranking title among American academic libraries, comparatively was not used as much in Europe;

- The apparent major difference was the total non-use of European optical products in the US libraries. In fact, none of the high-use European optical products, such as BL/BN Pilot, Deutsche Bibliothek, Myriade, and Verzeichnis lieferbarer Buecher (VlB), were included in the US study codebook.

- Of the library acquisition and cataloguing tools, Books in Print Plus was popular across types of library both in the US and in Europe.

2.4. Applications of Optical Products in Libraries

The 1988 US study results on the applications of optical products in American libraries were compared with those of the European study. There were substantial differences in what the optical products were used for between the US and European libraries. Optical products

were heavily used in American libraries for reference purposes (ranging from 23.2% for the public libraries to 34.5% for the academic ones) and by library patrons themselves (about 27% for both academic and special libraries), while in Europe, over 30% of the uses were for bibliographic database searching. In Europe, optical products were rarely used by patrons themselves.

2.5. Impacts of Optical Products

In the US, no more than 7.4% of libraries indicated they had not had optical products long enough to be able to ascertain their impact on users, but a much higher percentage (20.4%) of European libraries indicated so. Where this information was available, a number of similar favorable and positive impacts were cited by all American and European responding libraries. Figure 1 shows the comparative responses on the impacts of optical products among the American and European studies.

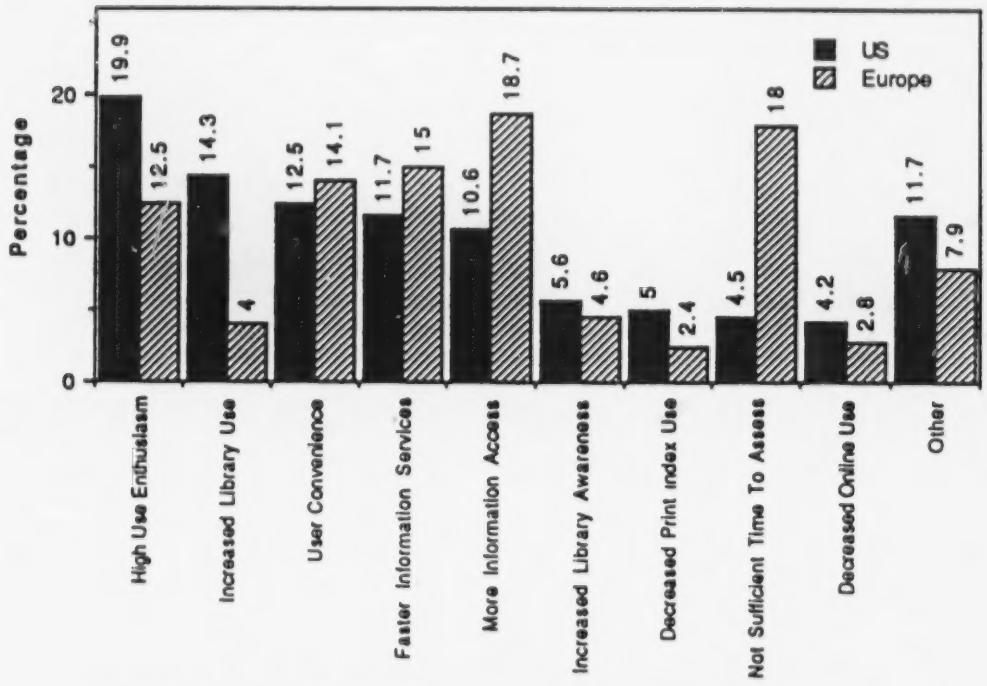

Figure 1. Impacts of Optical Products - American vs European Libraries

2.6. Effect of Optical Products on Library Use of Online Databases

All studies indicated that the use of CD-ROMs in libraries would have obvious and direct impact on the library use of online databases. A very high percentage (over 76%) of libraries across types of library in both US and Europe indicated that their use of online searching would be cut, and in addition, more indicated that their online budget would be decreased because of the acquisition and use of CD-ROMs in their libraries.

When asked about how and why optical products were more convenient to use than online databases, although a high percentage of American libraries (20.3% for the composite 1988 data) and European Libraries (31%) considered optical products much easier to use than online, there were quite noticeable differences in offering other reasons between the American and European libraries. For example, American libraries, specifically American public libraries, considered optical products much faster to use than online and much more comprehensive in scope and coverage than online databases, but the European libraries did not

feel as strongly on these points as their American counterparts. On the other hand, higher percentages of European libraries considered optical products more interactive to use than online and optical products were also more pleasurable to use since there was less pressure in using these products than using online databases.

2.7. Pros and Cons of Optical Products

The primary advantage of optical products mentioned by all responding American and European libraries was "easy to use". While the speed of searching was considered by the US public libraries as a very significant feature (over 27.7% of responses), it was not reflected in a similar way in the European responses. As to the disadvantages of optical products, the most obvious difference in responses between the US libraries and European libraries as a whole has to be the cost of optical products. Although cost was indicated by a number of US and European responding libraries as an important deciding factor for acquiring optical product(s) in libraries, it was a much more important one in Europe (about 20%) than in the US (ranging from about 8.7% for US special libraries to 12.4% for US academic libraries). This could be attributed to the fact that optical products are generally much more expensive (mostly over 50%) in Europe than in the US. On the other hand, proportionally a higher percentage of US libraries (ranging from 10.6% for public libraries to 21.1% for the academic ones) considered optical products difficult to use than did their European counterparts (9.6%). More comparative information can be seen in Figures 2 and 3.

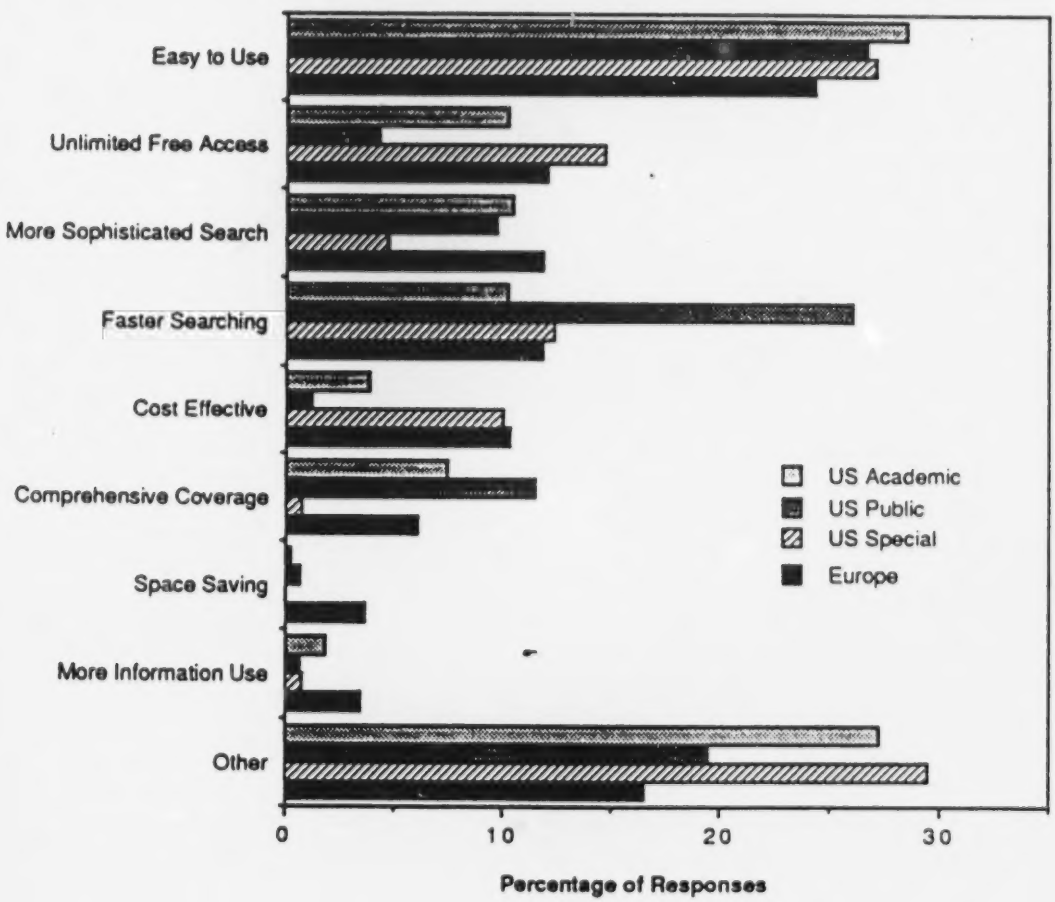

Figure 2. Advantages of Optical Products in the US Academic, Public and Special Libraries As Compared with European Libraries

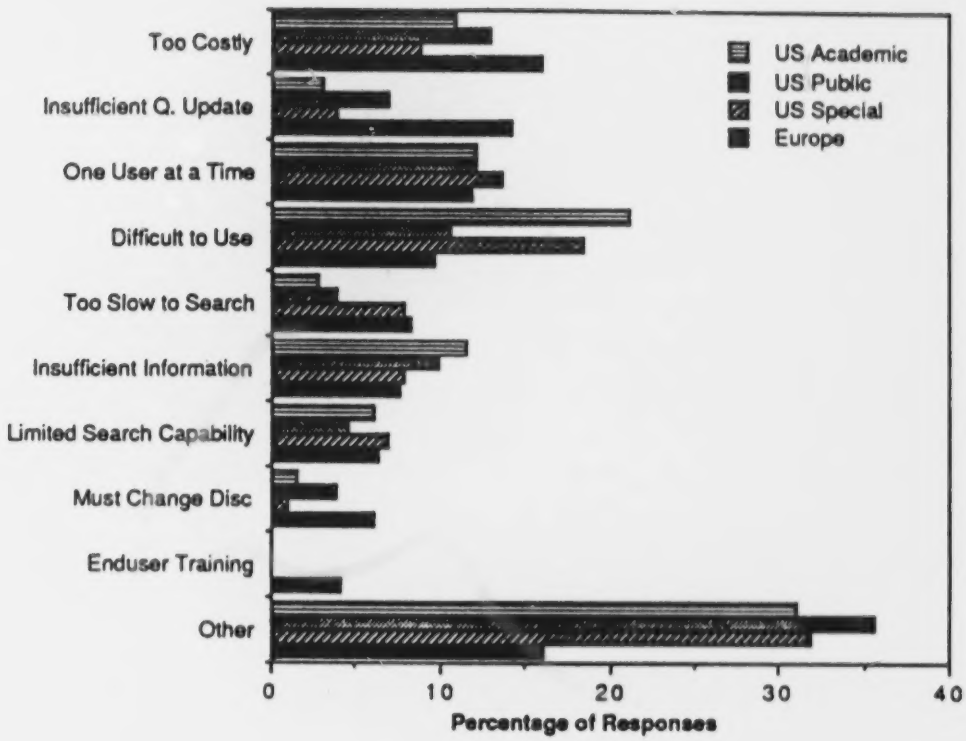

Figure 3. Disadvantages of Optical Products in the US Academic, Public and Special Libraries As Compared with European Libraries

2.8. Desired Features and Subjects of Optical Products

The most frequently mentioned desired features expressed by both American and European library respondents were quite similar although they did differ in ranking. All libraries wanted better software with more search capabilities, and standardized and compatible search language and software. Several asked for cheaper products with network and multi-user capabilities, better documentation, faster response in searching and more frequent updates.

As to the desired subjects, on the whole American libraries wanted to have more CD-ROMs covering more humanities subjects (with 41 mentions of the total 181) and social sciences (35 mentions). For European libraries, science, technology and medical sciences were more desired than humanities and socials sciences.

A number of responding libraries specified desired forms of optical products rather than subject. American libraries preferred to have more abstracts and indexes (with 38 mentions) while European libraries mentioned national bibliographies and library catalogues most frequently.

3. CONCLUSION

This paper has provided a brief comparative summary of the results of the American and European studies on the use of CD-ROMs and other optical products in all types of library and information centers. Where they were being used, in many cases they had been acquired only very recently and thus libraries had not yet had much opportunity to evaluate either their impact or their advantages and disadvantages. It is evident that, in 1987-89, CD-ROMs were being used mainly in the larger academic libraries which had larger staffs and a larger book collection, although the number of public library and special library users were on the rise. It is also noteworthy that CD-ROMs (though not videodiscs) were being used mainly by library staff rather than by the general public. The survey also showed up a relatively surprising lack of knowledge and awareness about the availability, applications and use of CD-ROMs and optical products in general.

The studies over time and different locales, from 1987 to 1988 in the US and in 1989 in European, have provided us invaluable insight into the pattern of use of optical products in libraries and information centers. It is reasonable to expect that the use of these products in every part of the world will rise rather rapidly. Clearly, optical products are not yet in as widespread use in Western European libraries as in American ones, and thus the growth potential is even greater there.

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